IN THE CLAIMS

No claims have been amended with this Response.

1. (Previously Presented) A distributed computer system comprising:

a source endnode including:

a source process which produces message data; and

a send work queue having work queue elements that describe the message data for sending;

a first destination endnode including:

first and second destination processes;

a first receive work queue corresponding to the first destination process; and

a second receive work queue corresponding to the second destination process;

a second destination endnode including:

a third destination process; and

a third receive work queue corresponding to the third destination process, wherein each of the first, second, and third receive work queues have work queue elements that describe where to place incoming message data;communication fabric providing communication between the source endnode and the first and second destination endnodes;

a first end-to-end context at the source endnode and the first destination endnode storing state information to ensure the reception and sequencing of message data sent from the source endnode to the first destination endnode thereby facilitating reliable datagram service between the source process and the first and second destination processes; and

a second end-to-end context at the source endnode and the second destination endnode storing state information to ensure the reception and sequencing of message data sent from the source endnode to the second destination endnode thereby facilitating reliable datagram service between the source process and the third destination process.

2. (Previously Presented) The distributed computer system of claim 1 wherein the source endnode includes a network interface controller which packetizes the message data into frames.

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3. (Previously Presented) The distributed computer system of claim 2 wherein the destination endnode includes a network interface controller which acknowledges receipt of frames sent from the source endnode.

4. (Previously Presented) The distributed computer system of claim 3 wherein the network interface controller and the end-to-end context portion in the destination endnode ensures strong ordering of received frames sent from the source endnode, such that the frames are received in a same defined order as transmitted from the source endnode.

5. (Previously Presented) The distributed computer system of claim 3 wherein the source endnode retransmits frames that are not successively acknowledged in the reliable datagram service.

6. (Previously Presented) The distributed computer system of claim 3 wherein the network interface controller in the destination endnode generates cumulative acknowledgments.

7. (Previously Presented) The distributed computer system of claim 3 wherein the network interface controller in the destination endnode generates acknowledgments on a per frame basis.

8. (Previously Presented) The distributed computer system of claim 2 wherein the end-to-end context stores state information to keep track of sequence numbers to detect out of sequence or missing frames sent from the source endnode to the destination endnode.

9. (Previously Presented) The distributed computer system of claim 3 wherein the end-to-end context stores state information to keep track of acknowledgments sent from the destination endnode.

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10. (Previously Presented) The distributed computer system of claim 3 wherein the end-to-end context stores state information to keep track of time out values.

11. (Previously Presented) A method of sending message data via a reliable datagram service from a source endnode to first and second destination endnodes in a distributed computer system, the method comprising:

producing message data with a source process at the source endnode;

describing the message data for sending with work queue elements in a send work queue at the source endnode;

describing where to place incoming message data with work queue elements in first and second receive work queues at the first destination endnode;

describing where to place incoming message data with work queue elements in a third work queue at the second destination endnode;

storing state information in a first end-to-end context at the source endnode and the first destination endnode to ensure the reception and sequencing of message data sent from the source endnode to the first destination endnode;

storing state information in a second end-to-end context at the source endnode and the second destination endnode to ensure the reception and sequencing of message data sent from the source endnode to the second destination endnode;

sending message data via the reliable datagram service between the source process and the first and second destination processes, wherein the reliable datagram service is controlled by the state information stored in the first end-to-end context; and

sending message data via the reliable datagram service between the source process and the third destination process, wherein the reliable datagram service is controlled by the state information stored in the second end-to-end context.

12. (Previously Presented) The method of claim 11 further comprising:

packetizing, at the source endnode, the message data into frames.

13. (Previously Presented) The method of claim 12 further comprising:

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acknowledging, at the destination endnode, receipt of frames sent from the source endnode.

14. (Previously Presented) The method of claim 13 further comprising:

ensuring strong ordering of received frames sent from the source endnode, such that the frames are received in a same defined order as transmitted from the source endnode.

15. (Previously Presented) The method of claim 13 further comprising:

retransmitting frames that are not successively acknowledged in the reliable datagram service.

16. (Previously Presented) The method of claim 13 wherein the acknowledging, at the destination endnode, includes generating cumulative acknowledgments.

17. (Previously Presented) The method of claim 13 wherein the acknowledging, at the destination endnode, includes generating acknowledgments on a per frame basis.

18. (Previously Presented) The method of claim 12 wherein the stored state information in the end-to-end context keeps track of sequence numbers to detect out of sequence or missing frames sent from the source endnode to the destination endnode.

19. (Previously Presented) The method of claim 12 wherein the stored state information in the end-to-end context keeps track of acknowledgments sent from the destination endnode.

20. (Previously Presented) The method of claim 12 wherein the stored state information in the end-to-end context keeps track of time out values.

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